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NEWS 1		Web Page URLs for STN Seminar Schedule - N. America
NEWS 2		"Ask CAS" for self-help around the clock
NEWS 3	JAN 27	Source of Registration (SR) information in REGISTRY updated and searchable
NEWS 4	JAN 27	A new search aid, the Company Name Thesaurus, available in CA/CAplus
NEWS 5	FEB 05	German (DE) application and patent publication number format changes
NEWS 6	MAR 03	MEDLINE and LMEDLINE reloaded
NEWS 7	MAR 03	MEDLINE file segment of TOXCENTER reloaded
NEWS 8	MAR 03	FRANCEPAT now available on STN
NEWS 9	MAR 29	Pharmaceutical Substances (PS) now available on STN
NEWS 10	MAR 29	WPIFV now available on STN
NEWS 11	MAR 29	No connect hour charges in WPIFV until May 1, 2004
NEWS 12	MAR 29	New monthly current-awareness alert (SDI) frequency in RAPRA
NEWS 13	APR 26	PROMT: New display field available
NEWS 14	APR 26	IFIPAT/IFIUDB/IFICDB: New super search and display field available
NEWS 15	APR 26	LITALERT now available on STN
NEWS 16	APR 27	NLDB: New search and display fields available

NEWS EXPRESS	MARCH 31 CURRENT WINDOWS VERSION IS V7.00A, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 26 APRIL 2004
NEWS HOURS	STN Operating Hours Plus Help Desk Availability
NEWS INTER	General Internet Information
NEWS LOGIN	Welcome Banner and News Items
NEWS PHONE	Direct Dial and Telecommunication Network Access to STN
NEWS WWW	CAS World Wide Web Site (general information)

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FILE LAST UPDATED: 7 May 2004 (20040507/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> s btu
          4175 BTU
            24 BTUS
L1          4196 BTU
                 (BTU OR BTUS)

=> s british thermal unit
         16643 BRITISH
        929907 THERMAL
            65 THERMALS
        929935 THERMAL
                 (THERMAL OR THERMALS)
        337890 UNIT
        268507 UNITS
        566971 UNIT
                 (UNIT OR UNITS)
L2          17 BRITISH THERMAL UNIT
                 (BRITISH(W)THERMAL(W)UNIT)

=> s l1 or l2
L3        4210 L1 OR L2

=> s solid (p) waste
        911168 SOLID
        265280 SOLIDS
       1107362 SOLID
                 (SOLID OR SOLIDS)
        338014 WASTE
        165081 WASTES
        377538 WASTE
                 (WASTE OR WASTES)
L4       94115 SOLID (P) WASTE

=> s l4 and l3
L5         349 L4 AND L3

=> s l5 and (briquet? or bricket?)
         17694 BRIQUET?
            35 BRICKET?
L6          10 L5 AND (BRIQUET? OR BRICKET?)

=> d l6 1-10 all

L6   ANSWER 1 OF 10  CAPLUS  COPYRIGHT 2004 ACS on STN
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Full Text | Citing References

```
AN   2002:946664  CAPLUS
DN   138:26921
ED   Entered STN:  13 Dec 2002
TI   High-BTU fuel pellets manufactured from sorted non-recyclable high-BTU
     municipal solid wastes
IN   Philipson, John
PA   Can.
SO   U.S. Pat. Appl. Publ., 16 pp.
     CODEN: USXXCO
```

h eb c g cg b cg eb

DT Patent
LA English
IC ICM C10L005-40
NCL 044589000
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 51, 60
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002184816	A1	20021212	US 2001-801182	20010306
	WO 2002070635	A2	20020912	WO 2002-CA273	20020305
	WO 2002070635	A3	20030522		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

	EP 1370631	A2	20031217	EP 2002-704514	20020305

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

PRAI	US 2001-801182	A	20010306
	WO 2002-CA273	W	20020305

AB High-**BTU** combustible **solid** fuel pellets, with water content <10 wt.% and calorific value >10,000 **BTU**, are manufd. from municipal **solid waste**, such as hydrocarbon materials, non-hazardous industrial **waste**, com. and institutional **waste**, wood, rubber, fibrous material, and other high-**BTU wastes** (specifically carpets, underlay, vinyl flooring, synthetic rubber, tires, automotive insulation, compost residue, coal dust, fabrics, leather, furniture, peat, hemp, jute, sugarcane, coconut husks, corn husks, rice hulls, sewage sludge, and wood and paper fibers). Suitable wood and paper **wastes** include bark, chips, sawdust, plywood, particle board, pallets and skids, bushes, tree branches, yard **waste**, corrugated cardboard, newspaper, packaging materials, box board, and pulp **wastes**. The fuel pellets are formed from municipal **solid wastes** (after removal of **solid** hazardous **wastes** and recyclable **wastes**) by shredding and pulverization to form a fluff with water content of ≤10 wt.%, which is then compacted to form the pellet. An anaerobic digestion step may also be included.

ST fuel pellet municipal **solid waste**; refuse derived fuel pellet **solid waste**; shredding pulverization municipal **solid waste** fuel pellet

IT Digestion, biological
(anaerobic, of pelletized municipal **solid waste**; high-**BTU** fuel pellets manufd. from sorted non-recyclable high-**BTU** municipal **solid wastes**)

IT Thermal insulators
(automotive, **waste**; high-**BTU** fuel pellets manufd. from sorted non-recyclable high-**BTU** municipal **solid wastes**)

IT Fuel gas manufacturing
(biogas, anaerobic digestion, of pelletized municipal **solid waste**; high-**BTU** fuel pellets manufd. from sorted non-recyclable high-**BTU** municipal **solid wastes**)

IT Refuse derived fuels
(**briquets**; high-**BTU** fuel pellets manufd. from sorted non-recyclable high-**BTU** municipal **solid wastes**)

IT **Solid wastes**
(construction, **waste**, high-**BTU**; high-**BTU**

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fuel pellets manufd. from sorted non-recyclable high-**BTU** municipal **solid wastes**)
IT Packaging materials
(corrugated fiberboards, **waste**; high-**BTU** fuel pellets manufd. from sorted non-recyclable high-**BTU** municipal **solid wastes**)
IT Fiberboards
(corrugated packaging, **waste**; high-**BTU** fuel pellets manufd. from sorted non-recyclable high-**BTU** municipal **solid wastes**)
IT **Solid wastes**
(fabric; high-**BTU** fuel pellets manufd. from sorted non-recyclable high-**BTU** municipal **solid wastes**)
IT Cannabis sativa
(fiber, **waste**; high-**BTU** fuel pellets manufd. from sorted non-recyclable high-**BTU** municipal **solid wastes**)
IT Compaction
Forest litter
Municipal refuse
Pulverization
Sawdust
Scrap tires
Solid wastes
Waste plastics and rubbers
Wastewater treatment sludge
Wood **waste**
(high-**BTU** fuel pellets manufd. from sorted non-recyclable high-**BTU** municipal **solid wastes**)
IT Rice (Oryza sativa)
Seed
(hull, **waste**; high-**BTU** fuel pellets manufd. from sorted non-recyclable high-**BTU** municipal **solid wastes**)
IT Coconut (Cocos nucifera)
Corn
(husk, **waste**; high-**BTU** fuel pellets manufd. from sorted non-recyclable high-**BTU** municipal **solid wastes**)
IT **Solid wastes**
(newsprint; high-**BTU** fuel pellets manufd. from sorted non-recyclable high-**BTU** municipal **solid wastes**)
IT Containers
(pallets, **waste**; high-**BTU** fuel pellets manufd. from sorted non-recyclable high-**BTU** municipal **solid wastes**)
IT Construction materials
(particleboards, **waste**; high-**BTU** fuel pellets manufd. from sorted non-recyclable high-**BTU** municipal **solid wastes**)
IT Refuse derived fuels
(pellets; high-**BTU** fuel pellets manufd. from sorted non-recyclable high-**BTU** municipal **solid wastes**)
IT Wood boards
(plywood, **waste**; high-**BTU** fuel pellets manufd. from sorted non-recyclable high-**BTU** municipal **solid wastes**)
IT Fuel **briquets**
(refuse-derived; high-**BTU** fuel pellets manufd. from sorted non-recyclable high-**BTU** municipal **solid wastes**)

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IT Compost
(residues; high-**BTU** fuel pellets manufd. from sorted non-recyclable high-**BTU** municipal **solid wastes**)
IT Size reduction
(shredding, of municipal refuse; high-**BTU** fuel pellets manufd. from sorted non-recyclable high-**BTU** municipal **solid wastes**)
IT Construction materials
(**solid waste, waste**, high-**BTU**; high-**BTU** fuel pellets manufd. from sorted non-recyclable high-**BTU** municipal **solid wastes**)
IT Pulping liquors, processes
RL: PEP (Physical, engineering or chemical process); POL (Pollutant); PYP (Physical process); OCCU (Occurrence); PROC (Process)
(spent, high-**BTU**; high-**BTU** fuel pellets manufd. from sorted non-recyclable high-**BTU** municipal **solid wastes**)
IT Floors
(vinyl, **waste**; high-**BTU** fuel pellets manufd. from sorted non-recyclable high-**BTU** municipal **solid wastes**)
IT Paperboard
(**waste** paperboard; high-**BTU** fuel pellets manufd. from sorted non-recyclable high-**BTU** municipal **solid wastes**)
IT Packaging materials
(**waste**, high-**BTU**; high-**BTU** fuel pellets manufd. from sorted non-recyclable high-**BTU** municipal **solid wastes**)
IT Bagasse
Bark
Carpets
Furniture
Jute
Newsprint
Peat
Textiles
(**waste**; high-**BTU** fuel pellets manufd. from sorted non-recyclable high-**BTU** municipal **solid wastes**)
IT Coal dust
Hydrocarbons, processes
Petroleum coke
Synthetic rubber, processes
RL: PEP (Physical, engineering or chemical process); POL (Pollutant); PYP (Physical process); OCCU (Occurrence); PROC (Process)
(**waste**; high-**BTU** fuel pellets manufd. from sorted non-recyclable high-**BTU** municipal **solid wastes**)
IT Paper
(wastepaper; high-**BTU** fuel pellets manufd. from sorted non-recyclable high-**BTU** municipal **solid wastes**)
IT 7440-44-0, Carbon, processes
RL: PEP (Physical, engineering or chemical process); POL (Pollutant); PYP (Physical process); OCCU (Occurrence); PROC (Process)
(**waste**; high-**BTU** fuel pellets manufd. from sorted non-recyclable high-**BTU** municipal **solid wastes**)

L6 ANSWER 2 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN

h eb c g cg b cg eb

AN 2000:592991 CAPLUS
DN 133:182293
ED Entered STN: 25 Aug 2000
TI Processing of **solid wastes** by pyrolysis, fixed-bed and entrained-bed gasification, and combustion
IN Seifert, Wolfgang; Rabe, Wolfgang; Hauptmann, Werner
PA Sekundaerrohstoff-Verwertungszentrum Schwarze Pumpe G.m.b.H., Germany
SO Ger. Offen., 4 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM C10J003-58
ICS C10J003-16; C10B053-00; F23G005-027
CC 60-2 (Waste Treatment and Disposal)
Section cross-reference(s): 5, 38, 48, 51, 55, 62
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19906891	A1	20000824	DE 1999-19906891	19990219
	DE 19906891	C2	20020718		
PRAI	DE 1999-19906891		19990219		

AB Powdery and sludge-like carbon-contg. wastes and other products, principally low-**Btu** residues, such as waste epoxy resins, acid sludges, tars, storage tank residues, drug and herbicide wastes, solvent sludges, galvanization residues, etc., are fed, individually or as mixts., into a pyrolysis reactor at a max temp. of 700°, and further processed. The product pyrolysis gases are sep. quenched at cooled from 450-550° to <100°, and, with other gases, sepd. from the condensed oils and water condensates, and burned with flue gas purifn. The sepd. oil and water condensates are mixed with analogous products from the fixed-bed gasification reactor and fed to an entrained-bed gasification reactor. The condensed water fractions are used as scrubbing water for the gas quenching unit. Finally, the resulting pyrolysis cokes are, after leaving the pyrolysis reactor, hot-sieved, the fine and coarse size fractions are sepd. The coarse fraction is led directly to the fixed-bed gasifier, whereas the fine fraction is **briquetted** first prior to introduction into the fixed-bed gasifier.

ST waste processing fixed bed gasification; pyrolysis gasification waste processing; coke waste pyrolysis gasification

IT **Waste** plastics
(acid sludges, gasification of; processing of **solid wastes** by pyrolysis, fixed-bed and entrained-bed gasification, and combustion)

IT **Wastes**
(agricultural, gasification of; processing of **solid wastes** by pyrolysis, fixed-bed and entrained-bed gasification, and combustion)

IT **Solid wastes**
Solid wastes
(dust, gasification of; processing of **solid wastes** by pyrolysis, fixed-bed and entrained-bed gasification, and combustion)

IT Recycling of plastics and rubbers
(gasification in; processing of **solid wastes** by pyrolysis, fixed-bed and entrained-bed gasification, and combustion)

IT Municipal refuse
Sludges
(gasification of; processing of **solid wastes** by pyrolysis, fixed-bed and entrained-bed gasification, and combustion)

IT Fuel gas manufacturing
(gasification, fixed-bed and entrained-bed; processing of **solid wastes** by pyrolysis, fixed-bed and entrained-bed gasification, and combustion)

IT Recycling
(of **solid wastes**, gasification in; processing of

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solid wastes by pyrolysis, fixed-bed and
entrained-bed gasification, and combustion)
IT **Solid wastes**
Solid wastes
(petroleum refining, acid sludges, gasification of; processing of
solid wastes by pyrolysis, fixed-bed and
entrained-bed gasification, and combustion)
IT **Solid wastes**
(processing of **solid wastes** by pyrolysis, fixed-bed
and entrained-bed gasification, and combustion)
IT Fuel gas manufacturing
(pyrolytic; processing of **solid wastes** by
pyrolysis, fixed-bed and entrained-bed gasification, and combustion)
IT Petroleum refining
Petroleum refining
(**solid wastes**, acid sludges, gasification of;
processing of **solid wastes** by pyrolysis, fixed-bed
and entrained-bed gasification, and combustion)
IT Solvents
(**waste** sludges from; processing of **solid**
wastes by pyrolysis, fixed-bed and entrained-bed gasification,
and combustion)
IT Dust
Dust
(**waste**, gasification of; processing of **solid**
wastes by pyrolysis, fixed-bed and entrained-bed gasification,
and combustion)
IT Drugs
(**wastes**, gasification of; processing of **solid**
wastes by pyrolysis, fixed-bed and entrained-bed gasification,
and combustion)
IT Epoxy resins, reactions
RL: POL (Pollutant); RCT (Reactant); REM (Removal or disposal); OCCU
(Occurrence); PROC (Process); RACT (Reactant or reagent)
(**wastes**, gasification of; processing of **solid**
wastes by pyrolysis, fixed-bed and entrained-bed gasification,
and combustion)
IT Galvanizing
Herbicides
(**wastes**; processing of **solid wastes** by
pyrolysis, fixed-bed and entrained-bed gasification, and combustion)
IT Furnace firing
(with pyrolysis-derived **waste** gases; processing of
solid wastes by pyrolysis, fixed-bed and
entrained-bed gasification, and combustion)

L6 ANSWER 3 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN
Full Text | Citing References
AN 1989:10962 CAPLUS
DN 110:10962
ED Entered STN: 06 Jan 1989
TI Pyrolysis experiments with municipal **solid waste** components
AU Helt, James E.; Mallya, Narayani
CS Chem. Technol. Div., Argonne Natl. Lab., Argonne, IL, 60439, USA
SO Proceedings of the Intersociety Energy Conversion Engineering Conference
(1988), 23rd(Vol. 4), 427-32
CODEN: PIECDE; ISSN: 0146-955X
DT Journal
LA English
CC 52-1 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 60
AB Newsprint, kraft paper, polyethylene, and densified refuse-derived fuel
were used individually and in mixts. as feedstock in pyrolysis at atm.

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pressure and 350-800° in a batch lab. reactor to understand the basic mechanisms, kinetics, and chem. involved in the pyrolysis of municipal **solid waste** and its components. The pyrolysis products were analyzed for fuel properties (e.g., viscosity, calorific value, acid group concns.) and chem. compn. The chars have a heating value of 12,000-14,000 **Btu**/lb. The presence of Al and polyethylene in the feedstock does not affect the heating value of the char and may be beneficial to tar formation. The pH of the feedstock is an important variable in municipal **waste** pyrolysis.

ST municipal waste pyrolysis fuel manuf; char tar waste pyrolysis

IT Filter paper
(Whatman no. 1, pyrolysis of, tars from, anal. of, municipal **solid waste** pyrolysis in relation to)

IT Chars
(heating value of, of municipal **solid waste** component pyrolysis)

IT Calorific value
(of chars from municipal **solid waste** component pyrolysis)

IT Wood
(Ponderosa pine, pyrolysis of, municipal **solid waste** pyrolysis in relation to)

IT Wood
(aspen, pyrolysis of, municipal **solid waste** pyrolysis in relation to)

IT Paper
(kraft, pyrolysis of, tars from, anal. of, municipal **solid waste** pyrolysis in relation to)

IT **Waste solids**
(municipal refuse, pyrolysis of components of)

IT Paper
(newsprint, **waste**, pyrolysis of, product yields of, municipal **solid waste** pyrolysis in relation to)

IT Tar
RL: USES (Uses)
(pyrolysis, of municipal **solid waste** component, properties of)

IT Fuel gas manufacturing
(pyrolysis, of municipal **solid waste** components)

IT Fuel **briquets**
(refuse-derived, pyrolysis tars of, properties of)

IT 7429-90-5, Aluminum, uses and miscellaneous
RL: USES (Uses)
(in municipal **waste solid**, properties of pyrolysis char and tar in relation to)

IT 11113-50-1, Boric acid
RL: USES (Uses)
(pyrolysis of kraft paper-polyethylene-aluminum mixt. contg., pH of municipal **solid waste** for pyrolysis in relation to)

IT 9002-88-4, Polyethylene
RL: RCT (Reactant); RACT (Reactant or reagent)
(pyrolysis of, tars from, anal. of, municipal **solid waste** pyrolysis in relation to)

L6 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

AN 1981:622808 CAPLUS
DN 95:222808
ED Entered STN: 12 May 1984
TI Codisposal of municipal sludge and **solid waste** by gasification with coal
AU Lipowicz, Mark A.; Schulz, Helmut W.
CS Dynecol., Inc., Harrison, NY, USA
SO Natl. Conf. Munic. Ind. Sludge Util. Disposal, [Pap.] (1980), 188-95

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Publisher: Inf. Transfer, Silver Spring, Md.
CODEN: 46OUAM
DT Conference
LA English
CC 52-1 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 51, 59, 60
AB The Simplex-S process is described in which dewatered sewage sludge and air-classified municipal **solid waste** are combined with coal and a binder to make **briquets** that are used as feed to a moving-burden gasifier. The gas produced in scrubbed free of contaminants to give a clean fuel gas (320-430 **Btu**/ft3) suitable for use in utility boilers that would otherwise burn oil or natural gas. By-products include ferrous scrap, solidified slag, NH3, and S. The process steps and economics are discussed. Environmental hazards are minimized because most of the heavy metals are encapsulated in a nonleaching glassy slag, heavy org. compds. are cracked and converted to fuel gas, and gas cleanup is facilitated by the relatively low gas vols. involved, compared to combustion processes.
ST coal **solid waste briquet** gasification; municipal refuse coal **briquet** gasification; sewage sludge coal **briquet** gasification; fuel gas manuf coal **waste**; environment protection coal **waste** gasification
IT Fuel **briquets**
(coal, contg. municipal refuse and sewage sludge, gasification of)
IT Environment
(protection of, in gasification of coal-**solid waste briquets**)
IT Wastewater treatment
(sludge from, gasification of coal **briquets** contg. municipal refuse and, by Simplex-S process)
IT Fuel gas manufacturing
(gasification, of coal **briquets** contg. sewage sludge and municipal refuse, by Simplex-S process)
IT **Waste solids**
(municipal refuse, gasification of coal **briquets** contg. sewage sludge and, by Simplex-S process)
IT 7439-89-6P, preparation
RL: PREP (Preparation)
(recovery of scrap, in Simplex-S process for gasification of **briquets** contg. coal and **solid waste**)
IT 7664-41-7P, preparation 7704-34-9P, preparation
RL: PREP (Preparation)
(recovery of, in Simplex-S process for gasification of **briquets** contg. coal and **solid waste**)

L6 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN
Full Text Citing References
AN 1981:589790 CAPLUS
DN 95:189790
ED Entered STN: 12 May 1984
TI A clean fuel for power plants from coal and urban waste
AU Irwin, Charles F.; Schulz, Robert B.; Van Wyck, Robert W.
CS Dynecol., Inc., Harrison, NY, 10528, USA
SO Proc. Gov. Conf. Expanding Use Coal N. Y. State: Probl. Issues (1981), 371-8. Editor(s): Tress, Marcia H.; Dawson, James C. Publisher: Res. Found. State Univ. New York, Albany, N. Y.
CODEN: 46IWAW
DT Conference
LA English
CC 51-26 (Fossil Fuels, Derivatives, and Related Products)
Section cross-reference(s): 52, 60
AB The noncaking behavior and complete gasification of Simplex **briquets** composed of Eastern caking coal and municipal **solid waste** was demonstrated in a 2 ton/day slagging gasifier at Columbia University. The **briquetting** step affords synergistic advantages and permits

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cost-effective gasification of these raw materials. Preliminary cost ests. indicate that the reduced raw material costs and economics of scale possible with the Simplex gasifier ensure that the clean, medium-**Btu** Simplex gas is less expensive than no. 6 fuel oil. The results of the development efforts also indicate that Simplex poses no environmental hazards. The process is ready for verification in a series of demonstration runs employing com. available gasifiers.

ST fuel gas coal municipal waste

IT Fuel gas manufacturing
(gasification, of coal with municipal waste)

IT **Waste solids**
(municipal refuse, gasification of coal mixt. with, in prodn. of fuel gas)

L6 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN

Full Text Citing References

AN 1981:50089 CAPLUS

DN 94:50089

ED Entered STN: 12 May 1984

TI The Simplex coal and biomass gasification process

AU Arbo, John C.; Glaser, David P.

CS Columbia Univ., New York, NY, 10023, USA

SO Symp. Pap.: Energy Biomass Wastes 4 [Four] (1980), 387-401 Publisher: IGT, Chicago, Ill.
CODEN: 43YSAB

DT Conference

LA English

CC 52-1 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 43, 51, 60

AB The tech. feasibility of the title process was verified in a 2 ton/day process development slagging gasifier. The process produces a clean, medium-heating-value fuel gas from coal and cellulosic **waste** products, such as municipal **solid waste**, dewatered sewage sludge, forest pulp, or agricultural **waste**. The coprocessing of coal and cellulosic **waste** permits efficient gasification of Eastern bituminous caking coals in a simple moving bed converter, while reducing the cost of the product gas by the credits available for the disposal of urban **wastes**. Thus, Simplex gas has an amortized product cost of $2.50/106 **BTU**. A feature of the process is the prepn. of the feed mixt. in the form of sturdy **briquets** which provide for the containment of exuded tars until these are cracked to noncondensible gases, thereby preventing the swelling, agglomeration, and bridging traditionally encountered in the fixed-bed gasification of caking coals. The **briquets** are produced at low cost by a high-speed rotary compaction process.

ST gasification **briquet** coal cellulose; fuel gas coal cellulose; refuse gasification **briquet** coal

IT Fuel **briquets**
(coal and cellulosic wastes, for gasification, prepn. and properties of)

IT Wastewater treatment
(sludge from, gasification of **briquets** of coal and)

IT Wood
(wastes, gasification of **briquets** of coal and)

IT Fuel gas manufacturing
(gasification, of coal and wastes by Simplex process)

IT **Waste solids**
(municipal refuse, gasification of **briquets** of coal and)

L6 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN

Full Text Citing References

AN 1980:116005 CAPLUS

DN 92:116005

h eb c g cg b cg eb

ED Entered STN: 12 May 1984
TI Improvements in and relating to the production of fuel from refuse
IN Howard, Frederick George
PA Kesgrave Environmental Services Ltd., UK
SO Brit., 5 pp.
CODEN: BRXXAA
DT Patent
LA English
IC C10B053-00
CC 60-3 (Sewage and Wastes)
Section cross-reference(s): 51, 52
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 1555574	A	19791114	GB 1974-39877	19750312
PRAI	GB 1974-39877		19750312		

AB Solid smokeless fuel was produced from domestic or industrial refuse by crushing or grinding the refuse, extg. the noncombustible components, mixing a binder with the combustible constituents, pelletizing or **briquetting** the mixt., and pyrolyzing the material in the absence of O to cure the binder and distil off carbonaceous gases. Thus, refuse was crushed, passed over a double vibrating screen, and the coarse material was fed to a 2nd crusher to give particle size ≤1 in. The material was passed to a magnetic unit for metal removal, and to an air classification unit from which the lighter components were fed to a paddle mixer for blending with powd. lignosulfonate. The dry mixt. was compressed into pellets, pyrolyzed at ≥350°, quenched, and packed to give a stable fuel with heat output ~7500 **Btu**/lb.
ST solid fuel manuf refuse; lignosulfonate binder refuse fuel; pelletizing refuse solid fuel; **briquetting** refuse solid fuel
IT Bituminous materials
(binders, for solid fuel pellets and **briquets** from refuse)
IT Pellets
(from refuse, for solid stable fuels)
IT Fuel **briquets**
(manuf. of, from refuse)
IT **Waste solids**
(refuse, **solid** stable fuels from, manuf. of)
IT Fuels
(solid, pellets, manuf. of, from refuse)
IT 8062-15-5D, salts
RL: PROC (Process)
(binders, for solid fuel pellets and **briquets** from refuse)

L6 ANSWER 8 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

AN 1977:75791 CAPLUS
DN 86:75791
ED Entered STN: 12 May 1984
TI Fluidized bed **solids waste** gasifier
AU Liu, M. S.; Serenius, R.
CS Div. Appl. Chem., British Columbia Res., Vancouver, BC, Can.
SO Forest Products Journal (1976), 26(9), 56-9
CODEN: FPJOAB; ISSN: 0015-7473
DT Journal
LA English
CC 52-1 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 60
AB A process of converting wood waste to a low-**Btu** (150-200 **Btu**/ft3) gas and charcoal in a fluidized-bed gasifier is described. The process consists of continuously feeding shredded wood waste into the gasifier, which contains a bed of hot glowing charcoal. Air is used as a fluidization medium and supplier of O required for the gasification

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process. The process is thermally self-sustaining. Charcoal can be **briquetted** or processed further to become activated C. The performance of a pilot-scale gasifier is reported. Only the gasification aspects are covered.

ST waste wood fluidized bed gasifier

IT Fluidized beds and systems
(for wood wastes gasification, performance of)

IT Fuel gases
(from wood wastes, by gasification, in fluidized-bed gasifier)

IT Wood
(waste, gasification of, in fluidized-bed)

L6 ANSWER 9 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

AN 1976:169287 CAPLUS
DN 84:169287
ED Entered STN: 12 May 1984
TI Coke-making process
IN Hess, Howard V.; Cole, Edward L.
PA Texaco Development Corp., USA
SO Can., 11 pp.
CODEN: CAXXA4
DT Patent
LA English
CC 60-2 (Sewage and Wastes)
Section cross-reference(s): 17, 51, 43
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CA 975172	A1	19750930	CA 1972-132491	19720114
PRAI	CA 1972-132491		19720114		

AB **Solid** org. **wastes** are slurried with water, the slurry is heated to ~550°F at ~1000 psig to form coke particles, a heat-sensitive binder is added, and the mixt. is **briquetted** or pelletized. Typical binders are petroleum wax, starch, pitch, or tar. **Wastes** such as potato or orange **waste**, sawdust, newsprint, straw, or whey liq. can be thus converted to fuel coke. Newsprint gave a coke with heat of combustion 12,800 **Btu**/lb, with the compn. ash 0.73, C 69.6, H 5.0, O 0.35, and N 0.23%.

ST **solid waste** conversion coke; potato **waste** conversion coke; orange **waste** conversion coke; sawdust **waste** conversion coke; newsprint **waste** conversion coke; straw **waste** conversion coke; whey **waste** conversion coke

IT **Waste solids**
(coke manuf. from)

IT Carbonization and Coking
(of **solid wastes**, for fuel coke)

IT Orange
Potato
(waste from, fuel coke from)

IT Paper
Sawdust
Straw
Whey
(waste, fuel coke from)

L6 ANSWER 10 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN

Full Text | Citing References

AN 1974:137054 CAPLUS
DN 80:137054
ED Entered STN: 12 May 1984
TI Pyrolysis system for recycling of refuse

h eb c g cg b cg eb

IN Brown, Harry D.
PA Lewis, Ebert E.
SO U.S., 8 pp.
CODEN: USXXAM
DT Patent
LA English
IC C22B
NCL 075063000
CC 60-2 (Sewage and Wastes)
Section cross-reference(s): 59

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3770419	A	19731106	US 1971-163736	19710719
PRAI	US 1971-163736		19710719		

AB Refuse is fed into a closed retort. The closed retort includes a moving molten Pb bath for accomplishing the pyrolysis of the refuse. The closed retort provides vapor, fluid, and solid outputs. The pyrolysis process converts the org. portions of the refuse to a vapor state to facilitate ultimate recovery of tars, oils, and other petroleum-related products, a part of which includes fuel that may be utilized to operate the system. The nonorg. portions of the refuse are ultimately sepd. into high-grade char, ferrous metals, nonferrous metals, and precious metals. The fluid output is Pb which is refined to recover various metals. The refined lead is then recirculated to the molten Pb bath. Depending upon the yields of various materials desired, the molten Pb bath may be heated to any temp. between 350-620°. Within the closed retort, paper, plastic, and other org. materials that decomp. at ≤620° are converted to gases. The gases or vapors which are formed by the decompn. of such org. materials are withdrawn from the retort and refined by conventional means. A tar and dust trap is utilized to sep. the tar and dust which may be later combined with refined carbonaceous matter to produce char **briquets**. The vapor is treated with conventional condensers and gas absorbers to recover (NH4)2SO4 oils, a liquor, and fixed gas. In the pyrolysis process, it is estd. that approx. 5.5 million **BTU** of fuel will be recovered/ton of refuse. The heating of the furnace for the closed retort will require approximately 3 million **BTU** of fuel/ton of refuse, thus, a sizeable surplus of fuel may be marketed. The process exhausts no gases into the atm. and allows virtually all components of the refuse to be recycled into usable products.

ST pyrolysis refuse recycling

IT Hydrocarbon oils
RL: PROC (Process)
(from thermal decompn. of refuse, by molten lead)

IT Thermal decomposition
(of **waste solids**, by molten lead, product recovery in)

IT Metals, preparation
Tar
RL: PREP (Preparation)
(recovery of, from thermal decompn. of refuse, by molten lead)

IT **Waste solids**
(thermal decompn. of, by molten lead, product recovery in)

IT 7439-92-1, uses and miscellaneous
RL: USES (Uses)
(**waste solid** thermal decompn. by molten)

=> **file stnguide**

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	44.41	44.62

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) SINCE FILE TOTAL

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	ENTRY	SESSION
CA SUBSCRIBER PRICE	-6.93	-6.93

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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	44.41	44.62

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-6.93	-6.93

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